IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A system for providing interactive program guide (IPQ), the system comprising:

a plurality of encoding units each operative to receive a plurality of IPQ pages, audio input and data input, wherein each of the plurality of IPQ pages include a guide portion and a video portion, ~~encode a plurality of IPQ pages~~ and to generate a plurality of guide streams and at least one of a video stream, an audio stream and a data stream, wherein each ~~IPQ page is associated with a~~ generated stream ~~and~~ is assigned a respective packet identifier (PID);

at least one transport stream generator operatively coupled to the plurality of encoding units and assigned to a distribution node, each transport stream generator operative to receive ~~and multiplex selected ones of the plurality of~~ the generated streams from one or more of the plurality of encoding units and multiplexing packets from the received streams into one or more transport streams; ~~and~~

a session manager coupled to the at least one transport stream generator and the plurality of encoding units, the session manager being operative to ~~direct each transport stream generator to generate the one or more transport streams based on usage wherein the session manager performs an additional function of bandwidth manager~~ manage the operation of the plurality of encoding units and the at least one transport stream generator and to service demands of the distribution node; and

a bandwidth manager, coupled to the at least one transport stream generator for monitoring resources usage and availability for encoding by the plurality of encoding units, the

bandwidth manager, in response to a demand from the distribution node, obtains information regarding whether sufficient bandwidth and PIDs are available in the one or more transport streams being transmitted to the distribution node to service the demand and communicates the obtained information to the session manager for servicing the demand.

2. (Original) The system of claim 1, further comprising:

a bandwidth manager coupled to the plurality of encoding units and the session manager, the bandwidth manager operative to monitor usage and report to the session manager.

3. (Original) The system of claim 1, wherein the plurality of encoding units are operative to encode only once each IPQ page to be transmitted from the at least one transport stream generator.

4. (Currently Amended) The system of claim 1, wherein the number of transport streams generated by each transport stream generator is dynamically adjusted based on demands from ~~a neighborhood~~ the distribution node being served by the transport stream generator.

5. (Original) The system of claim 1, wherein the session manager directs a particular transport stream generator to generate an additional transport stream as usage increases and exceeds the capacity of currently transmitted transport stream(s).

6. (Original) The system of claim 1, wherein the session manager directs a particular transport stream generator to generate an additional transport stream if the number of streams to be transmitted by the particular transport stream generator exceeds the capacity of currently transmitted transport stream(s).

7. (Currently Amended) The system of claim 1, wherein the session manager, in response to the information communicated by the bandwidth manager, directs a particular transport stream generator to generate an additional transport stream ~~if~~ when the information indicates a required number of PIDs exceeds a maximum number of PIDs supported by currently transmitted transport stream(s).

8. (Original) The system of claim 1, wherein the session manager directs a particular transport stream generator to tear down a transport stream if usage falls below the capacity of remaining transport streams.

9. (Original) The system of claim 1, wherein each transport stream generator is operative to serve a respective group of terminals within a particular neighborhood.

10. (Original) The system of claim 1, wherein each transport stream generator is operable to provide differentiated IPQ via the one or more transport streams generated by the transport stream generator.

11. (Currently Amended) The system of claim 1, wherein a plurality of transport streams are generated by a particular transport stream generator, and wherein each of the plurality of transport streams includes a respective set of IPQ pages represented by the generated streams.

12. (Currently Amended) The system of claim 11, wherein the plurality of transport streams from the particular transport stream generator include transport streams with overlapping ~~sets of IPQ pages~~ guide PIDs.

13. (Original) The system of claim 11, wherein each of the plurality of transport streams from the particular transport stream generator includes one or more common IPQ pages.

14. (Original) The system of claim 11, wherein the sets of IPQ pages for the plurality of transport streams from the particular transport stream generator are organized to reduce likelihood of switching between transport streams at a receiving device.

15. (Original) The system of claim 11, wherein the sets of IPQ pages for the plurality of transport streams from the particular transport stream generator are organized to increase likelihood of PID transitions within the same transport stream.

16. (Original) The system of claim 1, wherein each encoding unit is operative to implement a slice-based encoding scheme.

17. (Original) The system of claim 1, wherein each encoding unit is operative to implement a picture-based encoding scheme.

18. (Currently Amended) A system for providing interactive program guide (IPQ), the system comprising:

at least one transport stream generator assigned to a distribution node, each transport stream generator including at least one encoder unit operative to receive a plurality of IPQ pages, audio input and data input, wherein each of the plurality of IPQ pages include a guide portion and a video portion, ~~encode a plurality of IPQ pages~~ and to generate a plurality of guide streams and at least one of a video stream, an audio stream and a data stream, wherein each of the plurality of streams generated for the plurality of IPQ pages is assigned a respective packet identifier (PID), each transport stream generator operative to ~~generate~~ multiplexing packets from the received streams into one or more transport streams having included therein the plurality of streams generated for the plurality of encoded IPQ pages;

a session manager coupled to the at least one transport stream generator and operative to ~~direct each transport stream generator to generate the one or more transport streams based on usage wherein the session manager performs an additional function of bandwidth manager~~ manage the operation of the plurality of encoding units and the at least one transport stream generator and to service demands of the distribution node; and

a bandwidth manager, coupled to the at least one transport stream generator for monitoring resources usage and availability for encoding, the bandwidth manager, in response to a demand from the distribution node, obtains information regarding whether sufficient bandwidth and PIDs are available in the one or more transport streams being transmitted to the distribution node to service the demand and communicates the obtained information to the session manager for servicing the demand.

19. (Canceled)

20. (Currently Amended) A method for providing interactive program guide (IPG) from a transmission source to a plurality of terminals, the method comprising:

receiving a plurality of IPQ pages, audio input and data input, wherein each of the plurality of IPQ pages include a guide portion and a video portion,

generating a plurality of guide streams and at least one of a video stream, an audio stream and a data stream, wherein each generated stream is assigned a respective packet identifier (PID);

multiplexing packets from the received streams into one or more transport streams;

monitoring the operation of the plurality of encoding units encoding the plurality of IPQ pages, audio input and data input;

monitoring demands from the plurality of terminals;

determining a current capacity of one or more transport streams ~~carrying IPG pages of said IPG to the plurality of terminals, each page of said IPG having an assigned packet identifier (PID)~~ to determine whether sufficient bandwidth and PIDs are available in the one or more transport streams being transmitted to the plurality of terminals to service the demands;

comparing the demands from the plurality of terminals against the current capacity; and

dynamically adjusting the number of transport streams to be transmitted to the plurality of terminals based on a result of the comparing ~~wherein a session manager performs an additional function of bandwidth manager~~.

21. (Original) The method of claim 20, further comprising:

providing an additional transport stream for the plurality of terminals if the demands exceeds the current capacity.

22. (Original) The method of claim 20, further comprising:

providing an additional transport stream for the plurality of terminals if a required number of packet identifiers (PIDs) exceeds a maximum number of PIDs supported by the one or more transport streams currently being transmitted.

23. (Original) The method of claim 20, further comprising:

tearing down a particular currently transmitted transport stream if the demands fall below the capacity of remaining transport streams.